



User's Guide

Model M-222P

General Mobile Radio Service Radio

Featuring:

- 22 Channels
- 38 CTCSS codes
- VOX

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This radio complies with Part 15 of the FCC rules. Operation is subject to the condition that this device does not cause harmful interference.

To maintain compliance with the FCC's RF exposure guidelines, this transmitter and its antenna must maintain a separation distance of at least two inches from your body.

To transmit, hold the radio with the antenna pointed up and away from your face, with the radio at least two inches from your face. Speak in a normal voice into the microphone.

Introduction

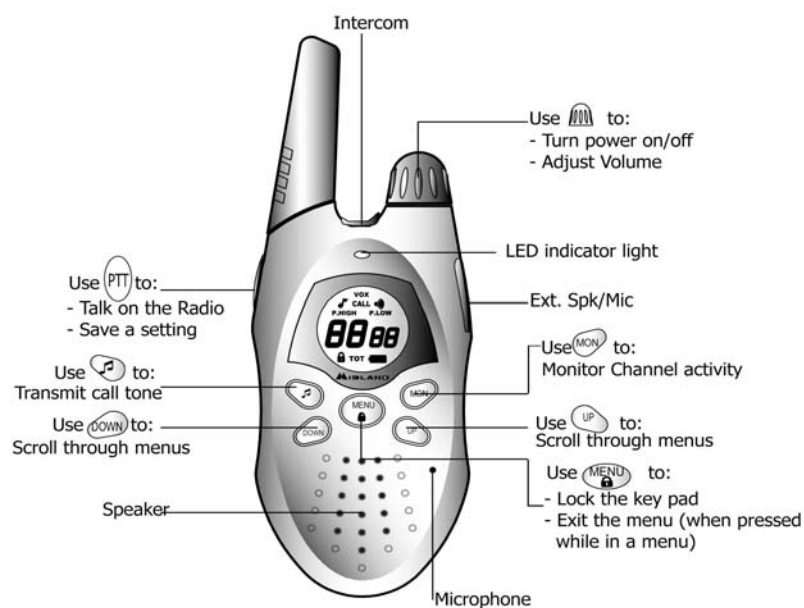
Your M-222P represents the state-of-the art in high-tech engineering. Designed for General Mobile Radio Service operation, this compact package is big in performance. It is a quality piece of electronic equipment, skillfully constructed with the finest components. The circuitry is all solid-state and mounted on rugged printed circuit boards. Your M-222P is designed for many years of reliable, trouble-free performance.

FCC Licensing Information

Your M-222P operates on General Mobile Radio Service (GMRS) frequencies and is subject to the Rules and Regulations of the Federal Communications Commission (FCC). **The FCC requires that all operators using General Mobile Radio Service (GMRS) frequencies obtain a radio license before operating their equipment for business, personal or recreational use.** A GMRS license held by an individual may be shared by immediate family members. To obtain the application forms, call the FCC forms hotline at 1-800-418-3676 or go to <http://www.fcc.gov>. Please request forms **605** and **159** which include all necessary forms and instructions.

For questions concerning licensing, please contact the FCC at 1-888-CALL-FCC (1-888-225-5322), or go to <http://www.fcc.gov>.

Control Buttons & Indicators



LCD Display



88

Channel indicator

BATT

Battery level indicator

88

CTCSS Channel indicator

•••

Roger Beep active indicator

P.HIGH

Power high

♪

Key Tone active indicator

P.LOW

Power Low

VOX

Vox active indicator

🔒

Key pad lock indicator

CALL

Call indicator

TOT

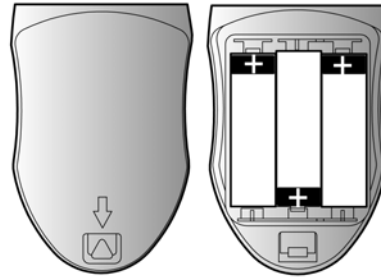
Time Out Timer indicator

Installing Batteries

Your M-222P radio operates with 3 AA Alkaline batteries. The belt clip should be removed to ease battery installation or removal. To install or remove batteries:

1. With back of radio facing you, gently press the triangular battery latch toward the top of the radio.
2. Lift up on the bottom edge of the battery cover and lift the cover off.
3. Insert 3 AA batteries observing the polarity as shown.
4. Insert the two alignment tabs on the top edge of the cover into their slots and press down on the bottom of the cover to secure.

Note: Batteries are not included.





Operation

Power On/Off: Turn the knob on the top of the radio clockwise to turn the radio on. Turn the knob fully counterclockwise to turn the radio off.





Volume: Rotate the knob clockwise to increase the volume and counterclockwise to decrease the volume.

Talking and Listening: To communicate, all radios in your group must be set the same channel and CTCSS code.

- For maximum clarity, hold the radio 2 to 3 inches from your mouth.
- Press and hold the PTT button and speak in a normal voice into the microphone. The LED indicator light glows continuously when transmitting.
- To receive messages, release the PTT button.





Disabling Button Beeps: A feedback beep is normally sounded each time a front panel button on the radio is pressed. To turn this feature on or off, press and hold the  button while turning the radio on. The  icon will be on when beeps are enabled.

Channel selection: Your M-222P has 22 channels available. To change channels:

- With the radio on, repeatedly press  until the current channel selection flashes.
- Use the  or  buttons to change the channel.
- Press  or the PTT button to save the new channel and exit the menus.





CTCSS selection: Your M-222P has 38 CTCSS codes available. The selected CTCSS code may be different for each channel. To select a CTCSS code for the current channel:

- With the desired channel selected, repeatedly press  until the current CTCSS code number flashes.
- Use the  or  buttons to change the CTCSS code number.
- Press  or the PTT button to save the new CTCSS code and exit the menus.




Note: Selecting a CTCSS code of 0 will disable the CTCSS feature. Selecting a CTCSS code may keep you from hearing unwanted radio traffic or interference.

CTCSS selection will not eliminate any interference while transmitting or make your conversation private. To communicate between two M-222P radios, both the channel and CTCSS code selections must be the same. To communicate with other models and brands of radios the actual radio frequency and CTCSS frequency must be matched. The frequency charts at the back of this book are included to help with this selection. In general, the first fourteen channel selections may be used to communicate with most FRS radios.







Monitor button: Pressing and holding the  button lets you hear white noise so you can adjust the volume level of the radio level when not receiving a signal. The  should be used to check activity on current channel before transmitting.

Time out Timer: The Time-out Timer feature helps extend battery life by preventing accidental continuous transmission. If the PTT button is pressed continuously for 60 seconds, the radio will emit a warning tone and will stop transmitting.





Power Selection: Your M-222P has two transmit power levels. To select the power level on channels 1-7 and 15-22:

- Press  until the **P.HIGH** or **P.LOW** icon flashes.
- Press  or  to select between high and low power levels.
- Press the PTT button to save and exit.



Note: On channels 8-14 no power level selection is possible.

Keypad Lock: To avoid accidentally changing radio operation, press  for 3 seconds. The  icon will be appearing. When the  is on the menu functions and  and  buttons are disabled. When locked, you will be able to turn the radio off and on, increase or decrease volume, monitor, transmit and send a call tone. To unlock, press  for 3 seconds.

Call Tone: Your M-222P has 10 different call tones available. To select the call tone:

- With the radio on, repeatedly press  until **CALL** appears. The current call tone setting will begin to flash.
- Press  or  to change the call tone. The new call tone will be heard over the speaker.
- Press  or the PTT button to save the new call tone and exit the menus.

Note: Setting the call tone to 0 disables the call tone function.





Roger Beep Tone: Whenever you release the PTT button, a “Roger Beep” tone may be transmitted to let your friends know you are finished talking. To enable the Roger Beep, turn the radio off. Press and hold  as you turn your radio on. The  icon will appear in the upper right position of the display. Repeat the same steps to turn off the Roger Beep.

VOX: VOX (voice operated transmit) operation allows you to transmit without using the PTT button when using a headset. To enable VOX operation:

- Open the SPK/MIC cover on right side of the radio.
- Insert the headset plug(s) into the SPK/MIC jacks.
- Set the VOX switch on headset to VOX position.
- Turn on the radio. The **VOX** icon will appear.

Note: The VOX level must be set properly and to a level other than zero for correct VOX operation.

VOX Level setup: Your M-222P has three selectable VOX levels. The VOX level should be adjusted so that your voice causes the radio to transmit, but environmental noise does not. To set the VOX level:

- With the radio on, repeatedly press  until **VOX** appears. The current VOX setting will begin to flash.
- Press  or  to change the VOX level.
- Press  or the PTT button to save the new VOX level and exit the menus.

Note: Selecting level 0 will disable VOX operation without regard to the VOX switch setting on the headset.

External Speaker/Microphone Jack: Your M-222P can be used with an optional external speaker/microphone or headset, freeing your hands for other tasks. To use an optional speaker/microphone or headset:

- Open the SPK/MIC cover on right side of the radio.
- Insert the plug(s) into the SPK/MIC jacks.

Intercom: Your M-222P can be used with optional accessories that allow the radio to operate as an intercom system.

- Open the INT cover on top of the radio.
- Insert the appropriate plug into the INT jack.

Belt clip: Your M-222P comes with a belt clip. To install the belt clip:

- Slide the clip down into the slots on the back of the radio until the latching mechanism clicks.

To remove the belt clip:

- Pull outward on the latching tab while gently sliding the belt clip toward the top of the radio.

Use and Care



Do not use alcohol or cleaning solutions to clean the radio.



Do not immerse the radio in water.



Do not use the radio until completely dry.



Do use a soft damp cloth to clean the radio.



Do dry the radio with a dry lint free cloth should it get wet.



Do turn off the radio and remove the batteries when storing.

Channel Frequency Chart

Channel Number	Channel Frequency (MHz)	Channel Number	Channel Frequency (MHz)
1	462.5625	12	467.6625
2	462.5875	13	467.6875
3	462.6125	14	467.7125
4	462.6375	15	462.5500
5	462.6625	16	462.5750
6	462.6875	17	462.6000
7	462.7125	18	462.6250
8	467.5625	19	462.6500
9	467.5875	20	462.6750
10	467.6125	21	462.7000
11	467.6375	22	462.7250

CTCSS Code Chart

Code	Freq (Hz)	Code	Freq (Hz)	Code	Freq (Hz)	Code	Freq (Hz)	Code	Freq (Hz)
1	67.0	9	91.5	17	118.8	25	156.7	33	210.7
2	71.9	10	94.8	18	123.0	26	162.2	34	218.1
3	74.4	11	97.4	19	127.3	27	167.9	36	225.7
4	77.0	12	100.0	20	131.8	28	173.8	36	233.6
5	79.7	13	103.5	21	136.5	29	179.9	37	241.8
6	82.5	14	107.2	22	141.3	30	186.2	38	250.3
7	85.4	15	110.9	23	146.2	31	192.8		
8	88.5	16	114.8	24	151.4	32	203.5		

Technical Specifications

General

Frequency Range	462.5500-467.7125 MHz
Channels	22
CTCSS Codes	38
Antenna Impedance	50 Ohm
Speaker Impedance	8 Ohm
Power Supply	3 AA Alkaline(4.5 VDC)
Modulation Type	FM
Intermediate frequencies	1 st IF = 21.7 MHz 2 nd IF = 450 KHz

Receiver

Sensitivity (for 12 dB Sinad)	0.22uV
Audio out put power (@ 10%THD)	150mW @ 8ohm
Audio distortion (@ 500 mVrms)	5 % @ 1kHz
Signal/Noise ratio	40 dB
Image Rejection	50 dB
Adjacent channel selectivity	50 dB
Current drain (standby)	65 mA

Transmitter

Modulation	FM 1.8 KHz-2.3 KHz Max
Signal/Noise ratio	30 dB
Current drain (max)	1000mA

LIMITED WARRANTY

Midland Radio Corporation will repair or replace, at its option without charge, any Midland FRS/GMRS transceiver which fails due to a defect in material or workmanship within One Year following the initial consumer purchase. This warranty does not apply to water damage, battery leak damage or abuse.

This warranty does not include any carrying cases, earphones, or antennas, which may be a part of or included with the warranted product, or the cost of labor for removal or re-installation of the product in a vehicle or other mounting.

Performance of any obligation under this warranty may be obtained by returning the warranted product, freight prepaid, along with proof of purchase date, to:

Midland Radio Corporation
Warranty Service Department
1120 Clay Street
North Kansas City, Missouri 64116.

This warranty gives you specific legal rights, and you may also have other rights, which vary, from state to state.

Note: The above warranty applies only to merchandise purchased in the United States of America or any of the territories or possessions thereof, or from a U.S. Military exchange.

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